Mercury rising

It's dangerous, it's here, and it's not going away

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ROGERSON [IDAHO]— With each step the Idaho Department of Environmental Quality takes toward solving a mercury mystery at Salmon Falls Creek Reservoir, the scarier that mystery becomes.

After more than a year of intense testing, data show the bulk of mercury entering the reservoir is likely coming from right here in Idaho and probably not Nevada mines as was initially suspected.

A little more than a year ago, the DEQ began testing mercury levels in the reservoir south of Rogerson. What they found was alarming: levels high enough to cause serious health problems.

The question was, where was the mercury coming from?

Preliminary test results hinted at Nevada mines that use mercury to extract gold from ore. The mercury could have been swept up by storms and deposited in the reservoir with rainwater.

But after a year of intense research, data point to a more ominous scenario. DEQ suspects the mercury is entering via watershed systems. If the mercury is indeed coming from water systems that feed the reservoir, it means that mercury is already here — and Idaho waterways aren't being contaminated from specific out-of-state sources such as the Nevada mines.

Watershed mercury is almost impossible to keep out of reservoirs. And once it's there, it's even harder to get out.

"Unfortunately, our best bet now is to try to slow it down," said Clyde Lay, a senior water analyst and fisheries biologist with the DEQ. "We're going to have to live with what's already there."

Why is mercury dangerous?

Officials say mercury is harmful, but most people need not worry.

"(Mercury levels) are certainly higher than normal," said Doug Howard, DEQ regional administrator. "But you can still go out and swim and water-ski or

whatever and be fine. It doesn't become dangerous unless you're eating lots of fish."

When mercury enters water, such as the Salmon Falls Creek Reservoir, bacteria react with the metal to form methylmercury. That highly toxic substance enters fish through their gills, or when big fish eat small fish already contaminated. As a fish grows older and becomes larger, the more mercury is likely to enter its body.

Mercury becomes dangerous for people when they eat contaminated fish. Since 2001, the Bureau of Community and Environmental Health, a division of the Idaho Department of Health and Welfare, has issued fish advisories for Idaho waters that contain fish with contamination levels high enough to affect humans.

Where is it, and how'd it get there?

Nine Idaho water bodies, including Salmon Falls Creek Reservoir, have fish advisories, but most Idaho water bodies have not been tested for mercury. Lay said it is likely some untested waters contain high mercury levels.

Testing at Salmon Falls Creek Reservoir shows higher mercury levels than other tested sites. The DEQ estimates that about 2.5 pounds of mercury enter the reservoir each year. Much of it settles to the bottom. Lay said soil samples from the reservoir's floor show mercury has accumulated consistently since it was built about 100 years ago. Salmon Falls Creek Reservoir probably contains about 250 pounds of mercury.

Rain data show that high concentrations of mercury are deposited into the reservoir. Even though rain concentrations are higher than watershed concentrations, much more watershed water enters than rainwater. That's why DEQ officials are looking away from Nevada mines and closer at Idaho sources.

DEQ regional manager Sonny Buhidar said mercury occurs naturally in Idaho, but that it's possible that more mercury is coming into the state — with wind and rain — from coal-fired power plants as far away as China.

Idaho has no coal-fired power plants, the primary source of mercury pollution. In August, Gov. Jim Risch signed an order that essentially prevents any coal-fired power plants from opening in Idaho.

What's next?

The DEQ says it will continue to test Salmon Falls Creek Reservoir, and that the agency has begun testing other Magic Valley water bodies.

Lay said there is no way to remove the mercury already at Salmon Falls, but that by improving riparian areas along waterways that feed the reservoir, some mercury may be kept out.

Earlier this year, the Nevada mines originally suspected as the reservoir's mercury source voluntarily cut mercury emissions by as much as 90 percent, Howard said.

But officials admit there's not much anyone can do to remove mercury that's already here.

"I've dreaded dealing with mercury my whole career," Buhidar said. "It's a nightmare, and now it's here."

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Stay safe

The Bureau of Community and Environmental Health warns that eating contaminated fish is the most common way people are harmed by mercury. Therefore, since 2001 the bureau has issued fish advisories for bodies of water that contain contaminated fish.

There is one fish advisory in effect in Magic Valley — at Salmon Falls Creek Reservoir.

The bureau recommends:

Women who are pregnant, nursing or planning to become pregnant not eat more than:

* 2 meals a month of walleye, smallmouth bass or perch

* 4 meals a month of kokanee

Children under 7 not eat more than:

* 1 meal a month of walleye, smallmouth bass or perch

* 3 meals a month of kokanee

* 8 meals a month of rainbow trout

General public not eat more than"

* 6 meals a month of walleye or bass

* 8 meals a month of perch

Danger

Exposure to high levels of mercury has been associated with serious neurological and developmental effects in humans. Fetuses and young children are especially vulnerable to mercury poisoning.

Effects can include:

•Subtle losses in sensory or cognitive ability

•Tremors

•Inability to walk

•Convulsions

•Death

Source: U.S. Environmental Protection Agency

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